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GB 2295308 A US 4394410 A
WPI & JAPIO Abstracts for JP100295550A

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(54) Abstract Title
A device for use in cooking or heating a food product

(57) A device (10) for use in cooking or heating a food product eg a beefburger (15), comprises a body (12) formed from a liquid absorbing material, part of the surface of the body having a covering, the body and covering, in use, allowing liquid especially fat to pass from the food product to the body, but hindering or preventing the passage of liquid from the body to the food product. The device comprises a paper towel (12), an apertured upper sheet (11) or aluminium foil, and an inperforate lower sheet (13) of aluminium foil. The side edges of the layers (11, 13) may be crimped together. The middle layer (12) is thereby able to absorb fatty liquids which are passed thereinto from the food product, through apertures (14) disposed in the upper layer (11).

FIG 1

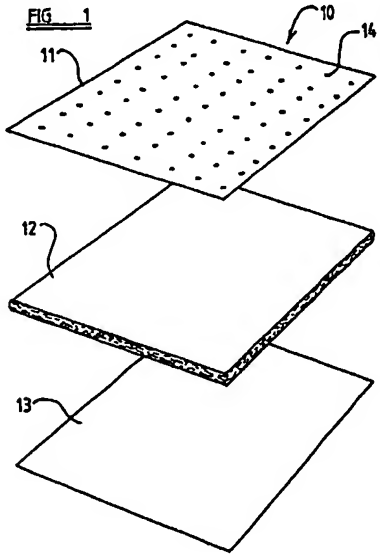

FIG 2

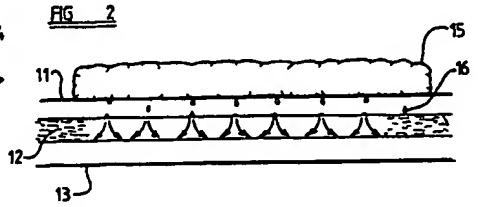

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FIG 1

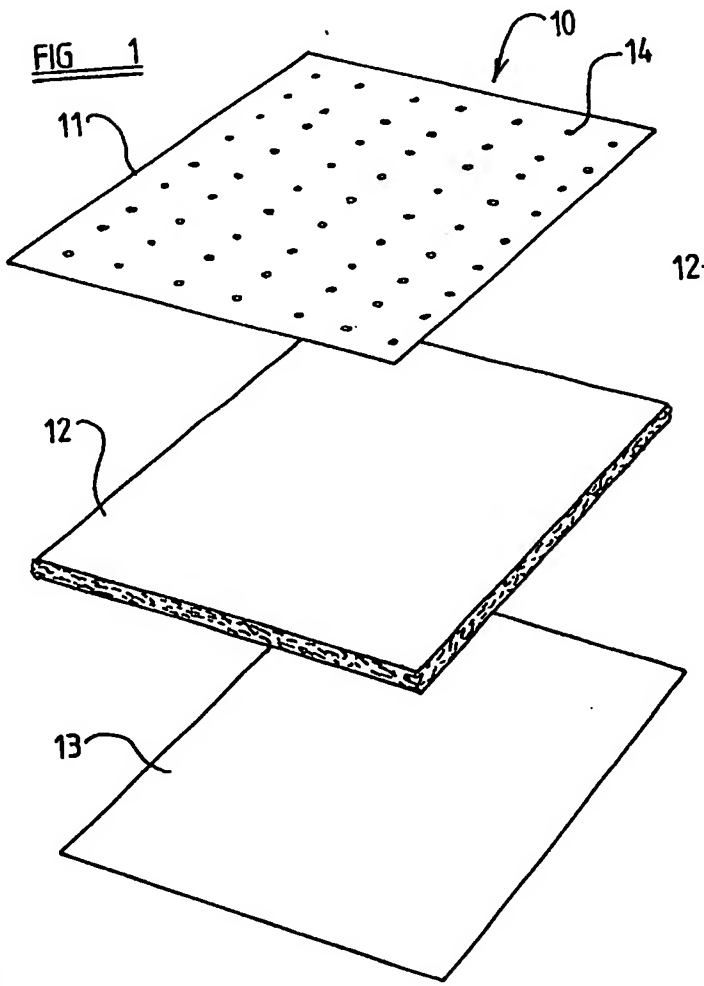


FIG 2

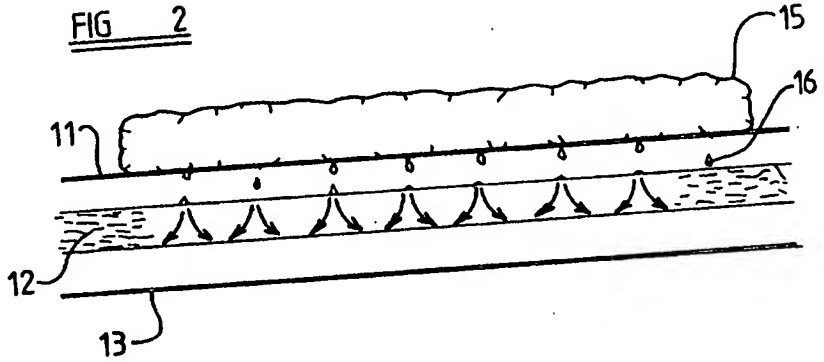
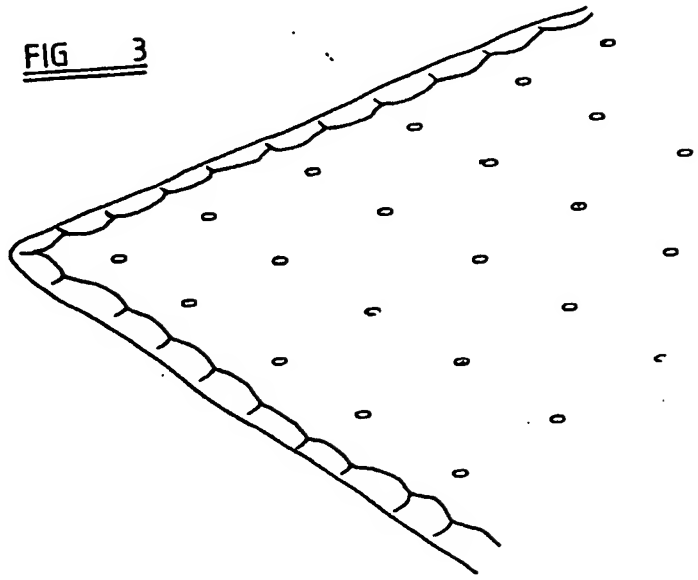


FIG 3



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Title: A Device for use in Cooking or Heating a Food Product and a Method of Making such a Device

Description of Invention

This invention relates to a device for use in cooking or heating a food product, and relates particularly, but not exclusively, to a device for use in cooking or heating so-called "fatty" foods, which excrete a relatively large amount of fatty liquids. The invention also relates to a method of making such a device.

Examples of "fatty" foods include sausages, beef-burgers and bacon rashers, which, especially when grilled or fried, excrete quite large quantities of saturated fats which are known to cause a variety of health problems (primarily coronary) in view of their apparent effects on the body's cholesterol level. The problem with conventional cooking or heating methods, such as grilling and frying, is that the excreted fats are allowed to remain in contact with the food products, thus causing the product to become somewhat "soggy" and potentially damaging to the consumer's health, weight and general well-being.

A further problem that arises during grilling and frying fatty foods is that the excreted fats can become very hot in the grill/frying pan, and can often "spit" back towards the heat source, in the case of grilling, or out of the pan, where the product is fried. This can sometimes present a risk of fire.

It is an object of the present invention to provide a device for use in cooking or heating a food product which overcomes or at least reduces these problems.

In accordance with a first aspect of the present invention there is provided a device for use in cooking or heating a food product, the device having a body formed from a liquid absorbing material, part of the surface of the body having a covering, the body and covering, in use, allowing liquid to

pass from the food product to the body, but hindering or preventing the passage of liquid from the body to the food product.

In this way, fats and the like, excreted from the food product, can be absorbed within the body, thus keeping them away from the food product during the remainder of the cooking/heating period. This is in contrast with the use of conventional grill pans, which merely collect the fats in a tray-like member positioned below the food.

Moreover, as will be appreciated, the covering is effective to at least hinder the passage of the fats back to the food product, thus keeping the fats away from the food product during the rest of the cooking/heating process.

Preferably, the covering is sheet-like, comprising a plurality of apertures therein.

Conveniently, the covering is a sheet of foil. Desirably, the covering is a sheet of metal, conveniently aluminium, foil.

An array of apertures may be provided in the covering. The apertures may have a width of about 1mm or less, but conveniently have a width of about 0.7mm or less.

Preferably, the covering is heat-conductive. In this way, the cooking heat may be spread across the covering, reducing the possibility of any fats contained within the body from catching fire.

Preferably, the covering, in use, is arranged to support the food product during cooking or heating.

In this way, any fats excreted by the food product may pass almost immediately to the body, thus enabling a rapid absorption thereof.

The body may be formed from a paper material.

Preferably, the covering is attached to said part of the body's surface.

The attachment is preferably mechanical, conveniently being effected by crimping, bending or folding.

Substantially all of an upper surface of the body may be provided with the covering.

The body, in use, may be supported by a lower covering which is substantially impervious to liquid. The lower covering may be formed from the same or a similar material as the first said covering.

Preferably, the lower covering is attached to, or integral with the first said covering.

Conveniently, the lower covering is mechanically attached to the first said covering, conveniently by crimping, bending or folding.

According to a further aspect of the present invention, there is provided a method of making a device for use in cooking or heating a food product, comprising procuring a body formed from a liquid absorbing material, procuring a covering formed from a different material, and mechanically attaching the covering to part of the surface of the body.

The covering is preferably attached to the body by crimping, bending or folding. The body and covering may be in accordance with the first aspect of the invention.

The invention will now be described in greater detail, but by way of example only, by reference to the accompanying drawings, of which

Figure 1 is an isometric and part-exploded view of one embodiment of the invention,

Figure 2 is a side view of the embodiment of Figure 1, showing how the device operates, during cooking or heating of a food product, and

Figure 3 is a perspective view of the embodiment of Figures 1 and 2 showing how the metallic sheets are mechanically attached to one another.

Referring first to Figure 1, the cooking device 10 comprises an upper layer 11, a middle layer 12 and a lower layer 13. The upper layer is formed, in this example, from a sheet of aluminium foil, of the type commonly used for culinary purposes, the sheet having therein an array of apertures 14, each of

which is about 0.7mm in diameter. The apertures are set out in a generally regular array, each aperture being spaced from an adjacent aperture by about 5mm. Different spacings are also envisaged, however. The middle layer 12 is formed from a somewhat thicker sheet of paper material of the type which is highly liquid absorbent. Although it will be appreciated to those skilled in the art that a number of different paper materials will be suitable, a multi-ply layer of "kitchen towel" material, possibly treated to render it fire-resistant, may be particularly appropriate. The principal characteristic of the middle layer 12 is that it is able to absorb fatty liquids which are passed thereto from a food product, through the apertures 14 disposed in the upper layer 11.

The lower layer 13 is also formed from a sheet of aluminium foil, but in this example is not provided with any apertures. It will however be appreciated that for ease of manufacture, the lower layer could conceivably be somewhat similar to the upper layer 11.

It will also be appreciated that although Figure 1 illustrates the device in a somewhat "exploded" manner, the three layers 11, 12 and 13 will, in practice, abut one another, the laminate being held together mechanically, in the manner shown in Figure 3.

Figure 2 shows how the device operates during cooking or heating of a fatty food product such as a beef-burger 15. The beef-burger is placed directly upon the upper layer 11, with the device 10 then being placed beneath a heat source such as a grill flame or the like. During cooking or heating of the beef-burger 15, fat droplets 16 are excreted therefrom, the fat droplets 16 then passing through the apertures 14 in the upper layer 11 to the middle layer 12. As the fat droplets 16 make contact with the paper layer 12, they become absorbed in the body of the paper layer, and are thus kept away from the beef-burger 15. It will be appreciated that although the apertures 14 are effective to allow passage of the fat droplets from the beef-burger 15 to the absorbent layer 12, the fat 16, once absorbed in the middle layer 12, is substantially unable to

pass back through the apertures 14, so that the resulting food product, when removed from the device, has a lower fat content than when the cooking/heating process was initiated.

In order to maximise the fire resistant properties of the device, the middle layer is enveloped by the upper and lower layers 11 and 13, by mechanical attachment of the edges of the upper and lower layers 11 and 13 to one another. As shown in Figure 3, the side edges of the layers 11 and 13 are crimped or pressed together, thus encasing the middle layer 12 with a covering of metallic sheet material. Although other attachment methods, such as glueing, are conceivable, mechanical attachment methods are likely to be preferred from a food hygiene viewpoint.

If desired, the middle layer 12 can also be crimped, pinched, or pressed between the upper and lower sheets 11 and 13, to improve the structural rigidity of the device 10.

It will be appreciated from the foregoing that the invention provides not only a device which offers many benefits from health and safety viewpoints, but also provides a device which is easily and cheaply manufactured, and which is capable of being disposed of safely, subsequent to use. It will also be appreciated that whilst the device can be used during grilling without traditional "supports" such as a grill pan, it may be desired, in practice, to place the device over or on a grill pan in some circumstances.

In the present specification "comprise" means "includes or consists of" and "comprising" means "including or consisting of".

The features disclosed in the foregoing description, or the following claims, or the accompanying drawings, expressed in their specific forms or in terms of a means for performing the disclosed function, or a method or process for attaining the disclosed result, as appropriate, may, separately, or in any combination of such features, be utilised for realising the invention in diverse forms thereof.

CLAIMS:

1. A device for use in cooking or heating a food product, the device having a body formed from a liquid absorbing material, part of the surface of the body having a covering, the body and covering, in use, allowing liquid to pass from the food product to the body, but hindering or preventing the passage of liquid from the body to the food product.

2. A device according to Claim 1 wherein the covering is sheet-like, and comprises a plurality of apertures therein.

3. A device according to Claim 1 or Claim 2 wherein the covering is a sheet of foil.

4. A device according to Claim 1, Claim 2 or Claim 3 wherein the covering is a sheet of metal, conveniently aluminium, foil.

5. A device according to any one of the preceding claims wherein an array of apertures is provided in the covering.

6. A device according to any one of the preceding claims wherein the covering comprises a plurality of apertures therein, the apertures having a width of about 1 mm or less.

7. A device according to Claim 6 wherein the width of the apertures is about 0.7 mm or less.

8. A device according to any one of the preceding claims wherein the covering is heat-conductive.

9. A device according to any one of the preceding claims wherein the covering, in use, is arranged to support the food product during cooking or heating.

10. A device according to any one of the preceding claims wherein the body is formed from a paper material.

11. A device according to any one of the preceding claims wherein the covering is attached to said part of the body's surface.

12. A device according to Claim 11 wherein the attachment is mechanical.

13. A device according to Claim 12 wherein the attachment is effected by crimping, bending or folding.

14. A device according to any one of the preceding claims wherein substantially all of an upper surface of the body is provided with the covering.

15. A device according to any one of the preceding claims wherein the body, in use, is supported by a lower covering which is substantially impervious to liquid.

16. A device according to Claim 15 wherein the lower covering is formed from the same or a similar material as the first said covering.

17. A device according to Claim 15 or Claim 16 wherein the lower covering is attached to or integral with the first said covering.

18. A device according to Claim 15, Claim 16 or Claim 17 wherein the lower covering is mechanically attached to the first said covering, conveniently by crimping, bending or folding.

19. A device for use in cooking or heating a food product substantially as hereinbefore described and/or as shown in the accompanying drawings.

20. A method of making a device for use in cooking or heating a food product, comprising procuring a body formed from a liquid absorbing material, procuring a covering formed from a different material, and mechanically attaching the covering to part of the surface of the body.

21. A method according to Claim 20 wherein the covering is attached to the body by crimping, bending or folding.

22. A method according to Claim 20 or Claim 21 wherein the body is formed from a paper material and the covering is formed from a sheet of metal, conveniently aluminium, foil.

23. A method of making a device for use in cooking or heating a food product according to Claim 20, Claim 21 or Claim 22, the device being in accordance with any one of Claims 1-19.

24. A method of making a device for use in cooking or heating a food product substantially as hereinbefore described and/or as shown in the accompanying drawings.

25. Any novel feature or novel combination of features described herein and/or in the accompanying drawings.

Application No: GB 0104455.1
Claims searched: All

Examiner: M C Monk
Date of search: 28 June 2001

Patents Act 1977
Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.S): A4A (AR); F4W

Int Cl (Ed.7): A47J (36/00, 36/16) ; F24C (15/14)

Other: ONLINE DATABASES: WPI, EPODOC, JAPIO

Documents considered to be relevant:

Category	Identity of document and relevant passage		Relevant to claims
X	GB 2295308 A	JOHN FRANCIS GORDON Upper perforated sheet of aluminium foil (13); lower impermeable sheet of aluminium foil (11); at least one central layer of liquid absorbent material eg paper (14).	All
X	US 4394410	OSROW PRODUCTS COMPANY Upper perforated sheet of aluminium foil (12); lower impermeable sheet of aluminium foil (32); a central layer of liquid absorbent material eg paper (20).	All
X	WPI & JAPIO Abstracts for JP 10295550 A (ISOGAI) Upper perforated sheet of aluminium foil (1); lower impermeable sheet of aluminium foil (3); at least one central layer of liquid absorbent material eg paper (2).		All

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.

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